

What is Claimed is:

1. An organic light-emitting device, comprising:

an anode glass base;

a hole transporting layer overlapped on said anode glass base;

5 an organic light-emitting layer overlapped on said hole transporting layer such that said hole transporting layer is sandwiched between said anode glass base and said organic light-emitting layer;

an electron transporting layer overlapped on said organic light-emitting layer;

a metallic cathode layer overlapped on said electron transporting layer; and

10 an organic buffer layer, which is overlappedly disposed between said electron transporting layer and said metallic cathode layer, having a hydrophilic head group firmly bonding with said metallic cathode layer and a lipophilic tail group firmly bonding with said electron transporting layer such that said organic buffer layer forms as a heat insulating media between said organic light-emitting layer and said metallic cathode layer  
15 for preventing an uneven thermal expansion difference therebetween during operating said organic light-emitting device.

2. An organic light-emitting device, as recited in claim 1, wherein said organic buffer layer is made of fatty acid salt having a chemical structure containing five to twenty carbon atoms ( $C_5$  to  $C_{20}$ ), wherein said head group of said fatty acid salt is  
20 formed as hydrophilic and said tail group of said fatty acid salt is formed as lipophilic.

3. An organic light-emitting device, as recited in claim 1, wherein said organic buffer layer has a thickness from 2 to 4 nanometers.

4. An organic light-emitting device, as recited in claim 2, wherein said organic buffer layer has a thickness from 2 to 4 nanometers.

5. An organic light-emitting device, as recited in claim 2, wherein said fatty acid salt is composed of sodium stearate (NaSt).
6. An organic light-emitting device, as recited in claim 4, wherein said fatty acid salt is composed of sodium stearate (NaSt).
- 5 7. An organic light-emitting device, as recited in claim 2, wherein said fatty acid salt is composed of zinc stearate (ZnSt).
8. An organic light-emitting device, as recited in claim 4, wherein said fatty acid salt is composed of zinc stearate (ZnSt).
9. An organic light-emitting device, as recited in claim 2, wherein said fatty  
10 acid salt is composed of aluminum stearate (AlSt).
10. An organic light-emitting device, as recited in claim 4, wherein said fatty acid salt is composed of aluminum stearate (AlSt).
11. An organic light-emitting device, as recited in claim 2, wherein said fatty acid salt is composed of sodium oleate (NaOl).
- 15 12. An organic light-emitting device, as recited in claim 4, wherein said fatty acid salt is composed of sodium oleate (NaOl).
13. An organic light-emitting device, as recited in claim 2, wherein said fatty acid salt is composed of sodium zincate (NaZt).
14. An organic light-emitting device, as recited in claim 4, wherein said fatty  
20 acid salt is composed of sodium zincate (NaZt).
15. A method of producing an organic buffer layer for an organic light-emitting device, comprising the steps of:
- (a) providing a fatty acid salt having a chemical structure containing five to twenty carbon atoms ( $C_5$  to  $C_{20}$ ); and

(b) growing said fatty acid salt through a thermal deposition system having a vacuum degree above  $1.0 \times 10^{-3}$  Pascal, and a temperature between 300°C and 400°C, to control a growing speed of said fatty acid from 0.1 to 0.9 nanometer per minute so as to produce said organic buffer layer.

5            16. The method, as recited in claim 15, wherein said fatty acid salt has a head group of formed as hydrophilic and a tail group formed as lipophilic.

17. The method, as recited in claim 16, wherein said fatty acid salt is composed of sodium stearate (NaSt) to form said organic buffer layer has a thickness from 2 to 4 nanometers.

10           18. The method, as recited in claim 16, wherein said fatty acid salt is composed of zinc stearate (ZnSt) to form said organic buffer layer has a thickness approximately 2 nanometers.

15           19. The method, as recited in claim 16, wherein said fatty acid salt is composed of aluminum stearate (AlSt) to form said organic buffer layer has a thickness approximately 3 nanometers.

20. The method, as recited in claim 16, wherein said fatty acid salt is composed of sodium oleate (NaOl) to form said organic buffer layer has a thickness approximately 4 nanometers.